**AMENDMENTS TO THE SPECIFICATION:**

Please replace paragraph [0006] with the following amended paragraph:

[0006] Another practiced method is to measure boom angle and lift cylinder pressure. In theory, as the load increases, the pressure in the cylinder supporting the boom also increases. But in reality, it is more complicated. At high ~~angle~~angles, for example, much of the load's force passes into the boom's mounting pins and will not result in an appropriate increase in cylinder pressure. Also, hysterisis errors are significant; the pressures substantially differ for the same boom angle depending on whether the boom angle ~~were~~ was reached by raising or lowering the boom.

Please replace paragraph [0031] with the following amended paragraph:

[0031] In some boom lift models, there is a need to have not only tipping protection but also structural overload protection in regions that are susceptible to structural damage before instability risks occur.

In such cases:

$$\text{If } \theta = \arctan\left[\frac{kC_V - pC_h \pm \sqrt{\left(C_V^2 + C_h^2\right)\left(k^2 + p^2\right) + \left(mC_V + rC_h\right)^2}}{(m+p)C_V + (r+k)C_h}\right] < \theta_s,$$

then the boom is in a tipping dominant region, and previous discussion in predicting safe or unsafe operation applies.

$$\text{If } \theta = \arctan\left[\frac{kC_V - pC_h \pm \sqrt{(C_V^2 + C_h^2)(k^2 + p^2) + (mC_V + rC_h)^2}}{(m+p)C_V + (r+k)C_h}\right] > \theta_s,$$

then the boom is in a structural dominant region, and:

$$\begin{cases} -\left|M_{backward}^{structural}\right| < M < +\left|M_{forward}^{structural}\right|; & \therefore safe\ operation \\ M < -\left|M_{backward}^{structural}\right| \ or\ M > +\left|M_{forward}^{structural}\right|; & \therefore unsafe\ operation \end{cases}$$

where:

$\cancel{\left|M_{backward}^{structural}\right|}$ $\underline{\left|M_{forward}^{structural}\right|}$ is equivalent maximum forward moment for which boom is structurally safe, and

$\left|M_{backward}^{structural}\right|$ is equivalent maximum backward moment for which boom is structurally safe.

Please replace paragraph [0033] with the following amended paragraph:

[0033] As noted above, although generally conventional dual axis force sensing pins can be used according to the present invention, the invention more preferably incorporates a modified pin 30 as shown in FIG. 4. The modified pin includes, in addition to the sensing elements 34, a housing 32 therein to internally accommodate the device electronics. Additionally, a microprocessor 36 is embedded inside the pin for performing a number of operations within the pin itself. Operations performed include filtering, amplification, etc. The pin microprocessor 36 also stores the calibration factors and identity of pin information. In this manner, pin locations can be interchanged without any effect on either calibration factors or pin identity. Indeed, it is important to

know where each pin is located for the exact computation of the moment from their force measurements. The pin according to the present invention permits it to broadcast its identity to the main processor where the moment computation is performed. The pin also broadcasts its calibration factors to the main processor.

Please replace paragraph [0035] with the following amended paragraph:

[0035] By assessing stability using dual axis force sensing pins, the system of the invention can accurately and continuously assess true forward and backward tipping moments. As a result, the system can effect a continuous rated capacity as opposed to the current dual rating (such as fully extended, fully retracted). In addition, the upper and lower bounds can enable continuously more capacity with decreasing ground slope (using a chassis tilt monitor), and continuously more capacity from boom over the side to boom over front/back (conventionally, only rated for worse configuration - boom over the side). Design requirements can be relaxed, and machines can be pre-programmed for different reach and capacity. The system can derive/determine the load in the basket, thereby ~~helps~~ helping to prevent structural overload of basket attachments and the leveling system. By monitoring the load in the force sensor pins, the system can also detect imminent tipping due to external forces, other than the load in the platform. By monitoring moments and weight in the basket, the system can be used to store information about occurrence of excessive loads, and such information can be used when responding to warranty claims.